REDUCE MINER OVER-EXPOSURE TO RESPIRABLE DUST

Goal 3.1B: Reduce by 5 percent the percentage of coal dust and silica dust samples that are out of compliance for coal mines and metal and nonmetal high risk mining occupations, respectively.

Results: This goal was exceeded. Noncompliant samples of coal and silica dust were reduced to below their targets.

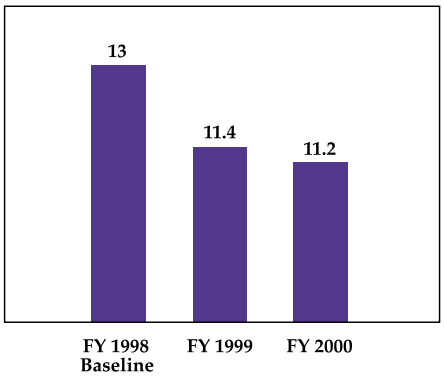
Program Description: Overexposure to coal and silica dust can cause irreversible disabling and fatal lung disease. The Department's Mine Safety and Health Administration (MSHA), through its safety and health enforcement and compliance efforts, and in partnership with the American mining community, works to minimize health hazards in accordance with the Federal Mine Safety and Health Act of 1977. DOL's mine health resources and programs strive to ensure that the approximately 360,000 men and women who work in over 14,000 American mines will not put themselves at risk of illness while on the job.

Analysis of Results:

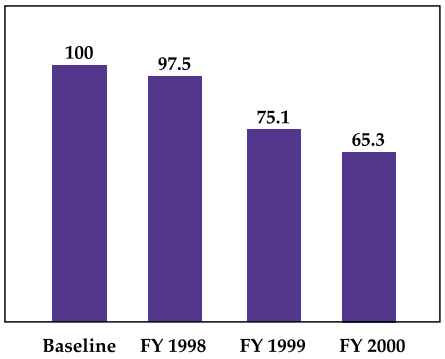
Coal Dust: The FY 2000 coal dust sampling results indicated that 11.2 percent of samples are not in compliance with the coal mine dust standard (552 out of 4,936 inspector samples). This is a positive reduction below the 11.7 percent noncompliant samples targeted. The target is based on a 5 percent per year reduction from the FY 1998 baseline of 12.9 percent.

Silica Dust: In FY 2000, DOL collected 1,289 silica dust samples and found 166 samples not in compliance. The resulting index of 65.3 is a positive reduction below the target index of 85 for FY 2000. The silica dust sampling results are a weighted comparison between the current year samples and a comparable set of samples from the 1997-1998 sample population. A result of 100 percent means that current year samples have the same compliance-noncompliance ratio as a comparable set of baseline samples.

Coal Dust Noncompliance
Percent of Samples Not in Compliance



Silica Dust Noncompliance
Index Comparison



Dust sampling is conducted by MSHA inspectors. Sampling procedures are well established, and a quality control process and edit checks are in place to assure that the performance data are accurate and reliable.

If anyone knows first-hand about the effects of black lung, it's a coal miner's widow who has watched the inexorable progression of this occupational respiratory disease in her "too-young-to-die" husband, one of an estimated 1,500 who succumb annually after years of suffering. To provide early detection, DOL's Mine Safety and Health Administration launched a nationwide pilot program offering free, confidential chest x-rays to coal miners. One Kentucky widow joined then-University of Kentucky football coach Hal Mumme, women's basketball coach Bernadette Mattox, and race car driver Rusty Wallace in encouraging participation through public service announcements on radio and television. Of 11,970 chest x-rays processed across the nation, 300 indicated some evidence of black lung, an early warning for those afflicted.

Strategies:

Coal Dust: The Department initiated bi-monthly sampling at underground coal mines. Sampling was previously conducted once a year at each underground coal mine.

Silica Dust: An analysis of high-risk metal and nonmetal mining occupations was conducted, and new sampling procedures have been initiated. Increased awareness and a stronger emphasis on health contributed to the significant improvements in dust compliance. DOL conducts seminars with industry and mine operators to promote awareness of health problems in the mining industry. Approximately 90 percent of the operations are aggregate operations and through seminars, videos, and on-site demonstrations, the Department works with operators and the National Stone Association to provide information and assistance regarding dust sampling procedures.

Goal Assessment: The silica index measure will be replaced in FY 2001 with a simpler weighted percent measure. ■

Left photo: Two underground coal miners shear coal from the face with a longwall mining machine.

Right photo: Two miners working at an underground coal storage location

Photos by: Michael Carpenter

REDUCE WORKPLACE INJURIES AND ILLNESSES

Goal 3.1C: Reduce three of the most significant types of workplace injuries and causes of illnesses by 7 percent (from baseline).

Results: This goal was fully achieved. DOL exceeded the targets for reducing silica and lead exposures. If current trends continue, the Department expects to meet the target for reducing amputations.

Program Description: DOL's Occupational Safety and Health Administration (OSHA) addresses silica, lead, and amputation hazards with a program mix of enforcement, compliance assistance, training and education, and partnerships. Over-exposure to silica causes disabling, permanent, and sometimes fatal lung disease. Over-exposure to lead adversely affects kidney function and the reproductive, blood forming, and neurological systems.

Analysis of Results and Strategies:

Silica: Exposure severity in FY 2000 at establishments with silica interventions was 59 percent below the baseline. In order to reduce silica exposures, a nationwide Special Emphasis Program (SEP) focuses inspections where silica exposure is likely. A Silica Technical Advisor uses DOL's website to provide training and information to assist employers and workers in identifying potential silica hazards in their workplaces, as well as in selecting control options.

Lead Exposures: At establishments with FY 2000 lead interventions, the average lead exposure severity was 36 percent less than the baseline. A nationwide SEP covering lead in construction was implemented and plans were made to expand it to all industries. Potential exposures include construction work involving abrasive blasting, welding, cutting or brazing on lead paint surfaces, smelting operations in which lead is recovered from batteries, and radiator repair shops. An expert system addressing lead in construction and general industry, available on the DOL website, elicits information from users and advises them about how the regulations apply to their situations.

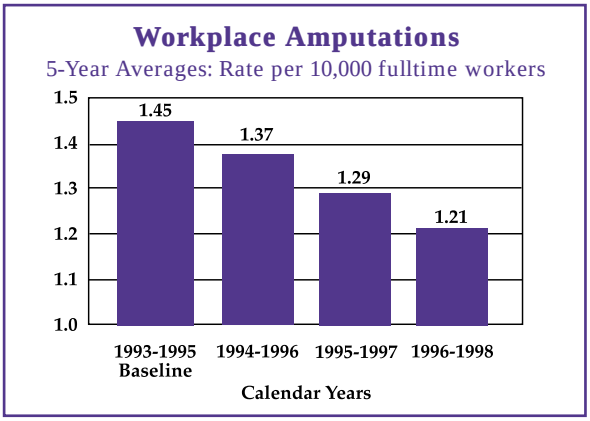
HAZARDS	BASELINE	FY 1999	FY 2000	% CHANGE
Silica Exposures*	9.4 average silica exposure severity FY 1996**	2.8	3.8	-59%
Lead Exposures*	4.8 average lead exposure severity FY 1995**	2.5	3.1	-36%
Amputations***	1.45 per 10,000 CY 93-95	1.29 per 10,000 CY 95-97	1.21 per 10,000 CY 96-98	-17% CY 96-98***

* Source: OSHA Integrated Management Information System

** Average exposure severity calculated by averaging the exposures measured for each inspection, then taking the average for all inspections (i.e., a severity of 1 means the exposure is at the Permissible Exposure Limits).

*** CY 1999 BLS Annual Survey of Occupational Injury and Illness characteristic data for amputations will be available in April 2001.
CY 2000 BLS Annual Survey of Occupational Injury and Illness characteristic data for amputations- will be available in April 2002.

Amputations: DOL expects to exceed the FY 1999 goal of reducing the amputation rate by 3 percent from the CY 1993-1995 level. The overall trend of amputations has been downward since CY1993-1995, as shown by the three-year moving averages DOL uses to reduce



Keeping up with the 4th R—technological readiness, the Occupational Safety and Health Administration (OSHA) provides Expert Advisors and e-Compliance Assistance Tools to help businesses interpret safety and health requirements and preventive measures. Both electronic tools combine the expertise of OSHA professionals -- including epidemiologists, risk assessors, and attorneys -- into a single source of help, and can be downloaded from OSHA's web site. Expert Advisors currently covers topics such as fire safety, hazard awareness, respiratory protection, and cost of injury, while e-CATs assist businesses in identifying workplace hazards and abatements.

year-to-year performance fluctuations. Safety inspections are targeted to employers operating machines that cause the greatest number of amputations: power presses; shears; slitters; slicers, and saws. Several outreach efforts to address amputations were initiated, including posting an interactive program on the Internet and awarding five training grants.

Goal Assessment: The Department's goal is an 11 percent reduction from the baseline in its FY 2001 plan. Based on the success DOL is realizing with this goal, the Department anticipates removing or revising these performance goals and / or identifying new performance targets. ■

An employee tending a concrete pump receives protection from rotating paddles and hydraulic valves by the steel grate installed over the pump hopper. Courtesy of the Centex Construction Company.

Photo by: Michael Carpenter